# Fudan Launches "Dataverse Network"

By Zong He

Fudan University Dataverse Network has been officially launched as a social science data platform, the first of its kind in Chinese universities, offering storage, publicity, exchange, share and online analysis functions of scientific research data for universities, research institutions and government departments. According to Vice President Lin Shangli of Fudan University, the research in humanity and social sciences need strong data support. The "big data" that the platform collects will support scientific development and government decisions and lay the foundation for Fudan in its construction of the "National Think Tank".

The website of the platform is http://dvn.fudan.edu.cn. The platform is an open space where researchers can store, release, exchange, share and analyze data for scientific research.

The platform is storing 1,377 data sets currently, including 57 open sets, 664 research topics, and 1,046 files. Additionally, 1,320 data sets were provided by Fudan University Liberal Arts Research Division, involving 1,319 teachers, 5,153 projects and 45,835 research results. The data sets are going to grow rapidly after the official launching of the platform.

With the launching of the platform, a number of characteristic data sets have been released as well, including China historical geographical information systems projects (CHGIS), Fudan Energy Databank (FDED), Fudan Yangtze River Delta Social Transformation Investigation Data (FYRST) and Hangzhou City Circle Databank.

Peng Xizhe, Director of Fudan Institute of Social Researches said that studies of social sciences request a great number of original, regular, systematic and successive data. International experiences show that high-quality data of social sciences with independent intellectual property right is the solid basis for significant academic achievements. China has made a late start but is growing rapidly in this aspect.

"It is a basic subject that Fudan has been constructing by consolidating advantages of multiple subjects to explore data digging, analysis and utilization in an all-round manner," said Peng. "We will construct it into a platform for data exchange and sharing with high quality and credibility in the field of social science research. We will push forward social science research and decision-making consulting with data basis and construct an intelligent country with data technology."

Fudan started research and argumentation for the construction of a databank for social scientific research since 2004. In November 2011, Fudan Institute of Social Researches was set up. In early 2012, the institute started to develop the data platform. In 2013, the institute decided to cooperate with the Harvard-MIT Data Center in the development of the first social science data platform in Chinese universities.

As ruled in the agreement between Fudan University and Harvard University, Fudan Institute of Social Researches is fully responsible for the internationalization, Chinesization, secondary development, external communication and promotion of Dataverse Network. In 2013, Fudan University completed Chinesization of the data platform, secondary development, data extraction & test, constitution of metadta norms and data monitoring norms. In June 2014, the platform was put into trial running.

On October 23 in 2014, Fudan took the lead joining hands with nine universities in the country to kick off "China University Library Research Data Management Promotion Work Team" in a bid to facilitate the research data management in Chinese universities. The other eight universities are Peking University, Tsinghua University, Beijing Institute of Technology, Zhejiang University, Wuhan University, Shanghai Jiao Tong University, Shanghai International Studies University and Tongji University.


The pilot program that Shanghai Bashi Group No.1 Branch carried out to extract bio-diesel from gutter oil in kitchen garbage and use it as hybrid fuel for buses has recently passed experts' review. As introduced, the bus operator has applied the fuel technology to 100 buses on ten routes. Since September 2013, the bus operator has been collaborating with Shanghai Food Safety Administration and Tongji University in making renewable diesel by grease exchange technology from kitchen garbage oil to replace fossil diesel. As tested, buses operating on "gutter oil fuel" are performing almost the same as those running on conventional fuel while the particulate matters in the emission have been reduced by about 10%.

■Photography by Pei Xin

# Yangpu Offers Free Down's Screening for the Pregnant

By Mao Xinhui

Yangpu District has kicked off a project which offers free Down's screening for 4,000 pregnant women in the district, with Xinhua Hospital as the designated hospital.

As learned from the launching ceremony, the project aims at pregnant women aged under 35 and have registered the pregnancy record in Yangpu. Starting from this year, qualified pregnant women will be informed when they report their pregnancy to community health service centers. Those who are willing to take part in the Down's screening will be registered and get reservation materials and instructed to go to the Prenatal Diagnosis Center of Xinhua Hospital to take type-B ultrasonic inspection and serology screening. The Prenatal Diagnosis Center will complete the screening and be responsible for follow-up clinic treatment.

The incident rate of "Down's infants" is around 1/700 in Yangpu. About 5-6% of the pregnant women that receive the Down's screening are diagnosed to have "High Risks" and need to receive amniocentesis or non-invasive prenatal gene test to make sure whether the chromosomes of the fetuses are abnormal.

Down's syndrome is also called Trisomy 21 Syndrome. A person has 23 pairs of chromosomes, 46 in total. No.21 chromosome has changed from two to three, which causes a series of syndromes to the children. The most obvious syndrome is the child being slow and retard. "Even though the chromosome diseases are related to heredity, the morbidity is mostly caused by objective factors. For example, the pregnant women are in contact with some poisonous and hazardous substances before pregnancy; the pregnant women are of advanced maternal age; there is interior decoration in the house of the pregnant women; the pregnant women are engaged in shoes making or working in a hairdressing salon," said the expert.

# Tongji Students Design Optimal Transfer System

By Zong He

Tickets for the direct train from Shanghai to Chongqing are hard to get. Is it possible for the passengers to take the bullet train from Shanghai to Wuhan and transfer to the high-speed train to Chongqing? Is it possible to achieve the same result as the popular routes by connecting and transferring among not so popular routes when all the tickets of popular trains are sold out? At the 2014 Shanghai College Students "Creation Cup" Contest organized by Tongji University, the "Optimization and Realization of Comprehensive Train Transfer System" led by Ma Chengyuan, a sophomore in the School of Transportation Engineering of Tongji provided a new way of thinking and possibility for solving the challenges in getting train tickets during the Spring Festival travel rush. The project won the "Most Popular Award".

During the Spring Festival, many people have to rack their brains to get the train ticket to go back to their hometowns. "Even if it is difficult to get the tickets to popular stations, it does not mean all the tickets to all stations are sold out. That is to say, there are still some seats available on some trains when other trains are fully packed," said Ma. As the capacity of direct trains between popular stations is limited, transfer will not only solve the ticket problem for passengers but also improve the operating efficiency of not so popular trains. As transfer is very complicated, it is not easy for passengers to find out the best and most feasible routes. Therefore, Ma and his classmates decided to do a research on the rain transfer system.

The calculation method is the key of the research so as to find out all possible transfer routes first and then find out routes with available seats for passengers in a short period of time. The team kept modifying and optimizing the calculation methods so as to get the simplest and most accurate one. They even developed the train transfer system into software to make the calculation tangible. "The train transfer system as the finished product can make use of the existing website of China Railway, research and analyze data of stations and trains, etc.," said Ma.

Is it possible to put this product into use in the coming Festival? The answer is negative as the conditions are not mature. Ma said the software still needs upgrading and the core issue is information collection and optimization. The team hopes passengers can use the software to look for the routes before they book their tickets. If there is no direct route or the tickets for the direct train are sold out, the transfer system can offer one or two best transfer plans.

# First Issue of 2015 "New Year Greetings" Stamps

By Chen Ling

People who download the client "E Post Interaction" and then scan the stamp can get the 3D cartoon "New Year Greetings" in the cheerful music "Spring Festival Overture". On January 10, the singing stamp with face value of RMB1.2 was officially issued as the first stamp with the theme of New Year greetings in China. There is one stamp of the series.

According to principals of Yangpu District Post, the 450 sets in Yangpu were sold out on the issuing day. The 2015 "New Year Greetings" stamp is the first of its kind and will be followed by new works in the future, one set for every New Year.

The stamp was designed by fine arts professor Wu Guanying in Tsinghua University while the calligrapher Ouyang Zhongshi inscribed the Chinese characters, which makes the stamp very worth of collection.